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REISSUE APPLICATION OF:

PATENTEES: STEPHEN A. MORSE et al.
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METHOD

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AMENDMENT

Sir:

Prior to examination, please incorporate the following changes to the specification and claims of U.S. Patent No. 5,984,937.

In the Title:

Revise the title as follows:

ORBITAL [DISSECTION] SURGICAL CANNULA AND
METHOD.

In the Specification:

Replace the paragraph at col. 4, lines 39 et seq. as follows:

--For a surgical procedure at an insufflated surgical site, or within other surgical working cavities, the cannula 9 may be fitted with an endoscope (and camera, optionally) for freely rotatable but fixed axial positioning relative to the cannula 9. In addition, the dissection probe 17 may be configured about the viewing end of the endoscope, and be retracted within the recess at the distal end of the cannula 9. In this configuration, the cannula assembly may be inserted into the working cavity at the surgical site, and the cannula may be rotated about the endoscope. The [eccentricity-oriented] eccentrically-oriented control rod 13 supporting the dissection probe 17 relative to the cannula 9 (or other rod-like or shaft-like instrument including an endoscope thus supported) can be positioned over an area as shown in Figure 7B, without repositioning the distal end of the cannula 9. In addition, the control rod 13 can be manually rotated and translated relative to the cannula 9 and relative to the viewing end of the endoscope near the distal end of the cannula, for example, to facilitate tissue dissection of connective tissue from a vessel of interest to be harvested. The dissection probe 17 may then be retracted into the recess in the distal end of the cannula 9, and positioned about the viewing end of the endoscope, to facilitate convenient movement of the distal end of the cannula within the surgical site with reduced likelihood of the dissection probe entangling surrounding tissue or vessels. This configuration of the cannula (i.e., with dissection probe retracted and positioned about the viewing end of the endoscope) also greatly facilitates insertion and removal and repositioning of the cannula relative to the surgical site.--

In the Claims:

Add claims 15-28 as follows:

15. A method of endoscopic surgery with a cannula including an endoscopic instrument having an operative tip supported by the cannula for selectable positioning thereon and including a lumen for receiving an endoscope therein, the method comprising:

assembling an endoscope within the lumen of the cannula for rotation of the cannula relative to the endoscope at substantially fixed axial orientation relative to the cannula to provide visualization from a distal end of the cannula;

supporting the endoscopic instrument on the cannula for movement relative thereto and in eccentric orientation relative to the endoscope, and with the operative tip disposed near the distal end of the cannula;

inserting the distal end of the cannula within a surgical site; and

selectively rotating the cannula relative to the endoscope received therein, and selectively positioning the endoscopic instrument relative to the cannula for manipulating the operative tip within the surgical site in visualization through the endoscope.

16. A method of endoscopic surgery with a cannula including an endoscopic instrument having an operative tip supported by the cannula for selectable positioning therein and including a lumen for receiving an endoscope therein, the method comprising:

assembling an endoscope within the lumen of the cannula for rotation of the endoscope relative to the cannula at substantially fixed axial orientation of the cannula and endoscope to provide visualization from a distal end of the cannula;

supporting the endoscopic instrument in the cannula for movement relative thereto and in eccentric orientation relative to the endoscope, and with the operative tip disposed near the distal end of the cannula;

inserting the distal end of the cannula within a surgical site; and

selectively rotating the endoscope relative to the cannula, and selectively positioning the endoscopic instrument relative to the cannula for manipulating the operative tip within the surgical site in visualization through the endoscope.

17. Surgical apparatus comprising:

an elongated cannula having distal and proximal ends and including a lumen therein between the ends for receiving an endoscope in rotatable orientation therein for supporting relative rotation of the cannula and the endoscope disposed within said lumen; and

an elongated endoscopic instrument supported by the cannula eccentric of said lumen, with an operative tip positioned at one end of the endoscopic instrument near the distal end of the cannula for selective positioning relative thereto, the endoscopic instrument including another end disposed near the proximal end of the cannula to facilitate manual manipulation of the operative tip at said one end of the endoscopic instrument in association with selective relative rotation of the cannula and the endoscope disposed within said lumen.

18. Surgical apparatus as in claim 17 wherein said distal end of the cannula includes a recess for enclosing the operative tip therein in response to inward translational movement of the endoscopic instrument relative to said distal end.

19. Surgical apparatus as in claim 17 including a fluid seal disposed within the cannula about the endoscopic instrument and disposed to receive an endoscope therethrough for maintaining fluid-tight engagement in response to relative movement of the endoscope and endoscopic instrument relative to fluid seal.

20. Surgical apparatus as in claim 18 including a fluid seal disposed within the recess about the endoscopic instrument near the distal end of the cannula and disposed to receive an endoscope therethrough for maintaining fluid-tight engagement in response to relative movement of the endoscope and the endoscopic instrument relative to fluid seal.

21. Surgical apparatus according to claim 17 including a fluid seal disposed near the proximal end of the cannula for receiving an endoscope therethrough to maintain fluid-tight engagement in response to relative movements of the endoscope.

22. Surgical apparatus according to claim 17 wherein the endoscopic instrument translates relative to the cannula to position the operative tip at a location spaced forward of the distal end and within the viewing field of the endoscope.

23. Surgical apparatus as in claim 17 wherein an endoscope is positionable within the lumen in substantially fixed axial position relative to the ends of the cannula.

24. Surgical apparatus according to claim 18 wherein an endoscope having a viewing end is positionable in fixed axial position relative to the cannula with the viewing end recessed within the cannula inwardly from the distal end thereof to exclude distal edges of the cannula from within a viewing field of the endoscope.

25. Surgical apparatus according to claim 17 wherein an endoscope having a viewing end is positionable in fixed axial position relative to the cannula with the viewing end disposed relative to the distal end of the cannula to position the operative tip within a viewing field of the endoscope.

26. Surgical apparatus according to claim 17 wherein the endoscopic instrument and the operative tip attached thereto translate relative to the cannula from near the distal end thereof to a location spaced forward of the distal end and within a viewing field of an endoscope disposed within the lumen.

27. Surgical apparatus comprising:

an elongated cannula having distal and proximal ends and including a first lumen therein between the ends for rotatably receiving an endoscope therein;

and

a second lumen in the cannula eccentric of the first lumen between the ends of the cannula for supporting an endoscopic instrument therein having an operative tip for selective manipulation of the operative tip near the distal end of the cannula via manual controls disposed near the proximal end of the cannula.

28. Surgical apparatus as in claim 27 including a fluid seal disposed in each of the first and second lumen in the cannula intermediate the proximal and distal ends to receive an endoscope and an endoscopic instrument therethrough for maintaining fluid-tight engagement in response to relative movement of the endoscope and endoscopic instrument relative to a fluid seal.

In the Abstract:

Replace the Abstract of the Disclosure as follows:

--A cannula and method provide manually manipulable orientation of [a dissection probe] an endoscopic instrument carried [eccentricity] eccentrically on the cannula for rotational and transactional positioning relative to the field of view of an endoscope at a distal end of the cannula. Rotation of the cannula at

fixed axial position relative to the endoscope and rotational and translational positioning of a [dissection probe] endoscopic instrument relative to the distal end of the cannula provide wide-area access within the surgical site [for bluntly dissecting] in connective tissue surrounding a vessel of interest being harvested.--

Respectfully submitted,

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